Exponential Functions Revisited

Learning Objectives

- Exponential Functions
  - Function output changes at a proportional rate
  - Defn = Functions of the form $f(x) = ab^x$
  - Finding the formula of an exponential function from a table
  - Increasing (at an increasing rate) vs decreasing (at an increasing rate) exponentials
- Modeling with Exponential Functions Revisited
  - Modeling cooling coffee with $f(x) = ab^x + c$
  - Vertical shift from $+c$
  - Defining longterm (end) behavior, introducing arrows to infinity
  - Discusses concavity of exponentials
- The Special Number e
  - Varying b in b^t is a horizontal scaling
  - Definition of e
  - Average rate of change of e^t approaches the function value
  - $f(t) = e^t$ is invertible. Name its inverse $f(t) = ln(t)$

Learning outcomes:
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